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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,923	10/21/2003	Youngwoo Kwon	PA2591US	6877

22830 7590 05/16/2005

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EXAMINER

CHOE, HENRY

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/690,923	Applicant(s) KWON ET AL.	
	Examiner Henry K. Choe	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-9,11-27 and 29-35 is/are rejected.
- 7) ☒ Claim(s) 3-5,10 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input checked="" type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States;

Claims 1, 2, 6-9, 11, 12, 14, 16-26, 29-31 and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitzlaff (Fig. 1).

Regarding claims 1, 11 and 29, Mitzlaff (Fig. 1) discloses an amplifier circuit comprising a carrier amplifier (105) which is coupled to an input stage (101, 103, 109) and amplifies an input signal (RF INPUT), and a peak amplifier (107) which is coupled to the input stage (101, 103, 109) and amplifies the input signal (RF INPUT) and wherein the peak amplifier (107) configured to receive a voltage control signal (PA BIAS CONTROL) for biasing the peak amplifier (107).

Regarding claim 2, the carrier amplifier (105) inherently includes a carrier first stage amplifier and a carrier second stage amplifier which are well known in the Doherty amplifier art.

Regarding claims 6, 7, 12, 14, 17, 31, 33 and 35, the power amplifier is configured to generate the voltage control signal in a first state if the power amplifier operates in a low output power range and power amplifier is configured to generate the voltage control signal in a second state if the power amplifier operates in a high output power range (see column 2, lines 16-31).

Regarding claim 8, Mitzlaff (Fig. 1) further including a 3dB hybrid coupler (103) which is configured to receive the input signal (RF INPUT) from the input stage (101, 103, 109).

Regarding claim 9, Mitzlaff (Fig. 1) further including an output matching unit (115) which is configured to receive an output signal (output of 107) from the peak amplifier (107) and output signal (output of 105) from the carrier amplifier (105) to generate an output power signal (RF OUTPUT).

Regarding claims 16, 21, 22, 24, 26, Mitzlaff (Fig. 1) discloses an amplifier circuit comprising a carrier amplifier (105), a peak amplifier (107) having a peak input terminal (input of 107) and a peak output terminal (output of 107) and a control terminal (a terminal receiving a signal of the PA BIAS CONTROL), a phase shifter (103), and an output matching unit (115).

Regarding claim 18, the phase shifter (103) is a hybrid coupler.

Regarding claims 19, 20, 23 and 25, the hybrid coupler (103) in Fig. 1 of Mitzlaff is functionally equivalent to the claimed 3dB hybrid coupler and LTCC.

Regarding claims 30 and 34, the amplifier of Mitzlaff (Fig. 1) is operated as a Doherty type amplifier.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2817

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 15, 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzlaff (Fig. 1).

Mitzlaff (Fig. 1) discloses all the limitations in the claims except for that the peak amplifier as a class B or a class C or a class AB amplifier. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific operating regions of the amplifier, since they are based on the routine experimentation to obtain the optimum operating parameters.

Allowable Subject Matter

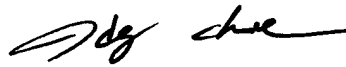
Claims 3-5, 10 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent numbers (5,880,633; 5,420,541) are the Doherty amplifiers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (571) 272-1760.


HENRY CHOE
PRIMARY EXAMINER

#1010